What is claimed:

1. A method of making an insulation product, comprising:

(a) forming an uncured or partially cured mat containing randomly oriented inorganic fibers and a heat curable binder agent, said mat having a pair of side portions and first and second major surfaces thereon;

(b) applying a nonwoven sheet to said first major surface, said nonwoven sheet comprising randomly oriented glass fibers; and

(c) heating said uncured or partially cured mat and said nonwoven sheet together, wherein said mat is cured to form a low density mat and said nonwoven sheet is bonded to said first major surface by said heat curable binder agent.

2. The method of claim 1 wherein said mat contains mineral fibers, rotary glass fibers, textile glass fibers, stonewool fibers, or a combination thereof.

3. The method of claim 1 further comprising, after step (c), applying a vapor retardant cellulosic or polymeric facing on said second major surface.

4. The method of claim 3 wherein said facing comprises kraft paper coated with bituminous material.

5. The method of claim 1 wherein said nonwoven sheet is porous to water vapor and air evacuated when said insulation product is compressed.

6. The method of claim 1 wherein said forming step (a) comprises:

providing said randomly oriented inorganic fibers with a plurality of fiberizers;

treating said randomly oriented inorganic fibers with said heat curable binder agent; and

collecting said randomly oriented inorganic fibers treated with said heat curable binder agent on a forming belt,

said method being characterized by applying an increased amount of heat curable binder agent to said randomly oriented inorganic fibers disposed proximate to said first major surface.

7. The method of claim 1 wherein said forming step (a) comprises:

providing said randomly oriented inorganic fibers with a plurality of fiberizers;

treating said randomly oriented inorganic fibers with said heat curable binder agent; and

collecting said randomly oriented inorganic fibers treated with said heat curable binder agent on a forming belt,

said method further comprising the step of applying a heat curable binder agent directly to said nonwoven sheet before or during step (b).

8. The method of claim 1, wherein said low density mat has a density of less than about 2 pounds per cubic foot and a thickness of greater than about 2 inches.

9. The method of claim 1, wherein said low density mat has a density of less than about 1.5 pounds per cubit foot and a thickness of greater than about 3.5 inches.

10. The method of claim 1, further comprising the step of affixing a nonwoven sheet comprising randomly oriented glass fibers to at least one of said second major surface and a side portion from said pair of side portions.

11. A method of making an insulation product, comprising:

(a) forming an uncured or partially cured mat containing randomly oriented glass fibers and a heat curable binder agent, said mat having a pair of side portions and a first and second major surface;

(b) applying a nonwoven sheet to said first major surface, said nonwoven sheet comprising randomly oriented fibers; and

(c) heating said uncured or partially cured low density mat and nonwoven sheet structure in a curing oven at a temperature between about 300-600°F,

wherein said randomly oriented fibers of said nonwoven sheet comprise fibers having a melting point above about said oven temperature,

wherein a low density mat is formed and said nonwoven sheet is bonded to said first major surface by said heat curable binder agent.

12. The method of claim 11 wherein said randomly oriented fibers of said nonwoven sheet comprise glass fibers.

13. The method of claim 11 wherein said mat contains rotary glass fibers, textile glass fibers or a combination thereof.

14. The method of claim 11 wherein said nonwoven sheet is porous to water vapor and air evacuated when said insulation product is compressed.

15. The method of claim 11 wherein said forming step (a) comprises:

providing said randomly oriented glass fibers with a plurality of fiberizers;

treating said randomly oriented glass fibers with said heat curable binder agent; and

collecting said randomly oriented glass fibers treated with said heat curable binder agent on a forming belt,

said method being characterized by applying an increased amount of heat curable binder agent to said randomly oriented glass fibers disposed proximate to said first major surface.

16. The method of claim 11 wherein said forming step (a) comprises:

providing said randomly oriented glass fibers with a plurality of fiberizers;

treating said randomly oriented glass fibers with said heat curable binder agent; and

collecting said randomly oriented glass fibers treated with said heat curable binder agent on a forming belt,

said method further comprising the step of applying a heat curable binder agent directly to said nonwoven sheet before or during step (b).

17. The method of claim 11, wherein said low density mat has a density of less than about 2 pounds per cubic foot and a thickness of greater than about 2 inches.

18. The method of claim 11, wherein said mat is heated to a temperature between about 400-560°F for a period of at least 20 seconds.

19. The method of claim 11, wherein said mat is heated to a temperature between about 450-525°F for a period of at least 20 seconds.

20. A method of making an insulation product, comprising:

(a) forming an uncured or partially cured mat containing randomly oriented glass fibers and a heat curable binder agent, said mat having a pair of side portions and a first and second major surface;

(b) applying a nonwoven sheet to said first major surface, said nonwoven sheet comprising first randomly oriented fibers and second randomly oriented fibers, said first randomly oriented fibers having a melting point above a temperature used in curing said mat and said second randomly oriented fibers having a melting point below said temperature used in curing said mat; and

(c) heating said uncured or partially cured low density mat and nonwoven sheet structure in a curing oven at a temperature above said melting point of said second fibers and below said melting point of said first fibers,

wherein a low density mat is formed and said nonwoven sheet is bonded to said first major surface at least in part by a melt bond between said second fibers and said randomly oriented glass fibers in said low density mat.

21. The method of claim 20 wherein said first fibers comprise glass fibers.

22. The method of claim 20 wherein said second fibers comprise polymeric fibers.

23. The method of claim 20 wherein said nonwoven sheet comprises a laminate, said laminate comprising a first layer including said first randomly oriented fibers and a second layer including said second randomly oriented fibers.

24. The method of claim 23 wherein said first fibers comprise glass fibers.

25. The method of claim 24 wherein said second fibers comprise polymeric fibers.

26. The method of claim 20 wherein said heating step (c) comprises melting at least some of said second fibers so as to melt bond said second fibers to said first major surface.

27. The method of claim 20:

wherein said nonwoven sheet comprises a laminate, said laminate comprising a first layer including said first randomly oriented fibers and a second layer including said second randomly oriented fibers, and

wherein said heating step (c) comprises melting at least some of said second fibers so as to melt bond said second fibers to said first major surface and to said first layer.

28. The method of claim 20, wherein said low density mat has a density of less than about 2 pounds per cubic foot and a thickness of greater than about 2 inches.

29. A method of making an insulation product, comprising:

(a) forming an uncured or partially cured mat containing randomly oriented glass fibers and a heat curable binder agent, said mat having a pair of side portions and a first and second major surface;

(b) heating said uncured or partially cured mat in a curing oven to form a low density mat; and

(c) after step (b) and while said low density mat is at an elevated temperature, applying a nonwoven sheet to said first major surface, said nonwoven sheet comprising first randomly oriented fibers and second randomly oriented fibers, said first randomly oriented fibers having a melting point above said elevated temperature and said second randomly oriented fibers having a melting point below said elevated temperature,

wherein said nonwoven sheet is bonded to said first major surface at least in part by a melt bond between said second fibers and said randomly oriented glass fibers in said low density mat.

30. The method of claim 29 wherein said first fibers comprise glass fibers.

31. The method of claim 30 wherein said second fibers comprise polymeric fibers.

32. The method of claim 29 wherein said nonwoven sheet comprises a laminate, said laminate comprising a first layer including said first randomly oriented fibers and a second layer including said second randomly oriented fibers.

33. The method of claim 32 wherein said first fibers comprise glass fibers.

34. The method of claim 33 wherein said second fibers comprise polymeric fibers.

35. The method of claim 29 wherein said heating step (c) comprises melting at least some of said second fibers so as to melt bond said second fibers to said first major surface.

36. The method of claim 29:

wherein said nonwoven sheet comprises a laminate, said laminate comprising a first layer including said first randomly oriented fibers and a second layer including said second randomly oriented fibers, and

wherein said heating step (c) comprises melting at least some of said second fibers so as to melt bond said second fibers to said first major surface and to said first layer.

37. The method of claim 29, wherein said low density mat has a density of less than about 2 pounds per cubic foot and a thickness of greater than about 2 inches.